STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF FEBRUARY 11, 2005
Prepared on November 24, 2004

ITEM NUMBER: _____

SUBJECT: **ISSUANCE OF NPDES MUNICIPAL STORM WATER PERMIT (WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2004-0135), CITY OF SALINAS, MONTEREY COUNTY**

KEY INFORMATION

Location:	City of Salinas, Monterey County
Discharge Type:	Municipal Storm Water
Existing Orders:	Waste Discharge Requirements Order No. 99-087

I. SUMMARY

The City of Salinas is required to maintain NPDES permit coverage for its municipal storm water discharges, pursuant to Section 402(p) of the Clean Water Act. The City has been operating pursuant to NPDES Waste Discharge Requirements Order No. 99-087, issued October 22, 1999. NPDES permits are required of all owner/operators of municipal separate storm sewer systems within the incorporated boundary of the City. The permittee has submitted a timely and complete application, therefore the conditions of the expired permit continue in force until the effective date of a new permit.

The Proposed NPDES Waste Discharge Requirements Order No. R3-2004-0135 includes Storm Water Management Plan (SWMP) Revision Requirements, a Monitoring and Reporting Program, and supporting maps and tables. The discharge retains essentially the same character as that regulated by the existing Waste Discharge Requirements (Order No. 99-087). The Proposed Order will ensure reduction of pollutants to the Maximum Extent Practicable (MEP)[1] in the City's storm water discharges, and thereby protect beneficial uses of surface waters receiving urban runoff.

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[1] **"MAXIMUM EXTENT PRACTICABLE" (MEP):** The State Water Resources Control Board (SWRCB) describes MEP as "...the technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that municipal dischargers of storm water must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally a result of emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate serving as additional lines of defense. The MEP approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility." (SWRCB Order No.2003-0005-DWQ, pg. 8-9 of Fact Sheet).

II. DISCUSSION

The Discussion first describes significant changes to the Proposed Order from the existing Order, then provides background information including the hydrologic setting and beneficial uses, discharge characteristics, and effluent and receiving water limits.

A. Changes to Order. The Proposed Order is modified from the existing permit, as a response to changes in the Federal storm water program, California 9th Circuit Court decisions, analysis of the past five years' sampling results, and lessons learned from implementation of the initial permit. The most significant changes in the Proposed Order include modifications of the City's Storm Water Management Program (SWMP) and of the City's Monitoring and Reporting Program (MRP). The required changes may affect city-wide programs, and often require the City to implement best management practices (BMPs) to the MEP. To support and expedite the City's efforts, and to aid the City in self-determining whether they are meeting the MEP standard, this Discussion section includes resources for the City's use. Summaries of the Proposed Order changes are as follows. This Discussion provides an overview of the most significant changes. The Proposed Order and its attachments are more detailed.

Storm Water Management Program (SWMP)

Permit Requirement Summary: The City is required to review and modify its SWMP within 180 days of the date of permit adoption, and submit this revised SWMP to the Regional Board for approval. The SWMP is the detailed guidance document that outlines specific BMPs, implementation schedules and other storm water related activities for all aspects of the City.

Background/Justification: The City's first Storm Water Management Program (SWMP) was developed as part of the permit application in 1999 and has not been significantly revised or updated since. This Permit addition requires the City to develop a new SWMP that complies with the reissued Permit.

Resources:
The City could use as an example the City of Sacramento's recently revised SWMP, available online at http://www.sacstormwater.org/const/manuals/dl-plan.html

Both the San Diego and Los Angeles storm water programs have also developed model Program guidance.

- San Diego Model Programs http://www.projectcleanwater.org/html/model_programs.html
- Los Angeles Model Programs http://ladpw.org/wmd/NPDES/model_links.cfm

The revised SWMP must address the following components:

1. Construction Site Management
2. Development Standards
3. Commercial/Industrial Facilities
4. Municipal Maintenance
5. Illicit Discharge Detection and Elimination
6. Public Education and Participation

7. Program Effectiveness
8. Legal Authority

1. Construction Site Management required changes

Permit Requirement Summary: The construction site management component requires the Permittee to do the following:

- Establish minimum BMP requirements for construction sites greater than or equal to 1 acre. Minimum BMPs include pollutant source controls, including erosion and sediment BMPs that meet proven, current and published standards.
- Update the City's inventory of active construction projects
- Requires the City review construction site SWPPPs
- Develop and implement a written progressive enforcement policy

Background/Justification: The permit establishes minimum requirements that all sites must follow, but also sets specific minimum construction BMPs that all sites must implement. This establishes a level of certainty for the types of BMPs that construction operators should implement and the types of BMPs that inspectors will look for. Construction operators can implement additional BMPs, but must provide some justification in the SWPPP if one of the minimum construction BMPs are not implemented.

The permit also requires review of SWPPPs and verification that NOIs have been submitted. The justification is that having operators develop one plan (a SWPPP) instead of a plan for the City and a plan for the State (e.g., an erosion control plan and a SWPPP) will minimize confusion and additional paperwork.

The Permittee is also required to develop an escalating enforcement policy. This policy is expected to address sources other than construction, and is referenced in the industrial/commercial and illicit discharge sections of the permit.

Resources:

An example of a construction inspection form used by the Regional Board is available at http://www.swrcb.ca.gov/rwqcb3/SWNEW/PhaseI/Construction/ConstructionInspectionForm.pdf.

The City of Stockton has developed a model construction SWPPP for construction operators in its community to use. The City also reviews all SWPPPs submitted by construction operators. http://www.ci.stockton.ca.us/MUD/stormwater/construction.htm

Caltrans has developed a number of documents on construction BMPs and construction inspections. These are available at:

http://www.dot.ca.gov/hq/construc/Construction_Site_BMPs.pdf

2. Development Standards Component required changes

Permit Requirement Summary: The Permittee shall develop and submit for public review and comment, and Executive Officer approval, a Development Standards Plan that describes measures to reduce pollutant discharges to the MEP from all new development and significant redevelopment projects. The Development Standards Plan must be consistent with applicable

sections of State Board Order WQ 2000-11 (State Board Order WQ 2000-11 was the basis for the Phase II Attachment 4 Design Standards of the NPDES Storm Water Permit for Small Municipal Separate Storm Sewer Systems). The permit requires the Permittee: a) revise the General Plan as necessary to include storm water quality provisions; b) require maintenance agreements for post-construction BMPs; c) provide annual employee training; and d) provide technical guidance for developers.

Background/Justification: The Los Angeles SUSMP is the model for the development standards permit language. The primary requirement is the creation of a development standards plan that addresses numeric sizing criteria for volume-based and flow-based BMPs. Another significant requirement is on maintenance provisions for structural and treatment BMPs. Background information on these topics is available in the State Board Order WQ 2000-11 and in material developed by Regional Board 4 in support of the Los Angeles MS4 permit.

Resources:

The following technical papers were developed by Regional Board 4 in support of the 2001 Los Angeles MS4 Permit and may provide additional information. These papers are available from http://www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/la_ms4_final.html:

- Storm Water Mitigation Requirements for Priority Planning Projects for the Protection of Water Quality - Technical Report (10-01)
- Mitigation of Storm Water Impacts From New Development in Environmentally Sensitive Areas - Technical Report (10-01)
- Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts - Technical Report (06-01)
    - Supplement to Retail Gasoline Outlet Report (12-01)

City of Los Angeles Storm Water Program has published a "Development BMP Handbook" for Planning Activities (called Part B) that focuses on new development and redevelopment. This handbook can be downloaded from:
http://www.lastormwater.org/Pages/partb.htm

Los Angeles Regional Water Quality Control Board's web site on SUSMPs is available at:
http://www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/susmp/susmp_details.html

The San Diego Model SUSMP is available at:
http://www.swrcb.ca.gov/rwqcb9/programs/sd_stormwater.html

3. Commercial/Industrial Facilities Component required changes

Permit Requirement Summary: The Permittee is required to add the following to the Industrial Facilities Component of their current SWMP:

- Inventory and inspect all commercial facilities generally believed to have potential pollutant threats to storm water. A list of required types of commercial facilities is included in the Permit.
- Develop, implement, and enforce a commercial discharge management program.
- Develop and require a designated set of minimum BMPs for commercial facility activities.

- Provide annual training program for employees whose positions relate to the commercial facilities component.

Background/Justification: The Permittee currently conducts an industrial facility inspection program. It has become standard practice for Phase I municipalities in their second and third permit terms to include commercial facilities as part of the inspection and BMP programs. Such requirements are consistent with Code of Federal Regulations section 122.26(d)(2)(iv)(A).

Resources: The following technical papers were developed by Regional Board 4 in support of the 2001 Los Angeles MS4 Permit and may provide additional information. These papers are available from http://www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/la_ms4_final.html:

- The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities (11-01)
- Review of Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets (11-01)
- Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit (03-01)

BMP Guides for various industries are available from:
1. The City of Los Angeles, http://www.lastormwater.org/Pages/publctns.htm

2. The California Stormwater Quality Association, CASQA, Industrial/Commercial BMP Handbook , http://www.cabmphandbooks.com/Industrial.asp

3. The City of Stockton, which has developed a model industrial SWPPP, http://www.ci.stockton.ca.us/MUD/stormwater

4. The Bay Area Green Business Program "Green Business" certification, *http://www.greenbiz.abag.ca.gov/*.

4. Municipal Maintenance Component required changes
Permit Requirement Summary: The municipal maintenance component requires the Permittee to add the following:

- Develop a comprehensive storm water collection system inventory, map, and maintenance schedule to address, at a minimum, jurisdictional storm water facilities, roads, and parking lots.
- Conduct annual inspections and reviews of all permittee-owned municipal facilities.

Background/Justification: The municipal maintenance program component will provide the city with a mechanism to adequately conduct routine municipal maintenance activities, training activities to employees whose jobs relate to municipal maintenance, and review/assess the overall program effectiveness.

Resources:

1. The City of Stockton's *Stormwater Maintenance Staff Guide* provides maintenance staff with an easy reference to determine appropriate storm water practices for a variety of activities.

2. The California Stormwater Quality Association, CASQA, Municipal BMP Handbook http://www.cabmphandbooks.com/Industrial.asp describes appropriate BMPs.

5. Illicit Discharge Detection and Elimination Component required changes
Permit Requirement Summary: The illicit discharge component requires the Permittee to develop a collection system inventory and map, continue to operate their hotline for illicit discharge reporting, conduct inspections of priority areas for illicit discharges, conduct dry weather screening, address spills, facilitate proper disposal of used oil and toxic materials, and enforce ordinances to eliminate illicit discharges.

Background/Justification: Illicit discharge programs are often reactive instead of proactive. This permit language was drafted to give the permittees the tools they need to be effective when reactive (e.g., an inventory and map, a hotline) while requiring the Permittee to take some actions that are more proactive (e.g., drive-by inspections of priority areas, dry weather screening). The intent is to develop a program where the Permittee can respond quickly to spills and other needs, but is also preventing incidents by targeting priority areas.

Resources:
An example of an effective dry weather analytical and field screening program can be found in San Diego's *Model Program Guidance for an Illicit Connection/Illicit Discharge Detection and Elimination Program* (available at *http://www.projectcleanwater.org*). Appendix D of this model program includes Dry *Weather Analytical and Field Screening Monitoring Guidance.* This guidance describes the specific activities the permittees will take to evaluate dry weather flows, includes a dry weather storm drain monitoring data and observation sheet, and lists action levels for when exceedances of field screening and laboratory parameters will trigger follow-up activities.

6. Public Education and Participation Component required changes
Permit Requirement Summary: The public education and participation component requires the Permittee to continue and enhance outreach efforts to target city audiences and activities, such as residential, schools, commercial, businesses, industrial, and small construction. The permit also requires the permittee to conduct public surveys, account for the amount of media impressions, stenciling and signage, as well as the development of an annual meeting with the public.

Background/Justification: This component will provide the permittee with a comprehensive approach to targeting storm water education and participation activities to the permittee public. This requirement will also provide the permittee annual input towards the effectiveness of the public education and participation program.

Resources: Two documents that could assist in developing a Public Outreach and Public Participation program are available from EPA:

- Getting in Step: A Guide to Effective Outreach in Your Watershed http://www.epa.gov/owow/watershed/outreach/documents/getnstep.pdf
- Getting in Step: Engaging and Involving Stakeholders in Your Watershed http://www.epa.gov/owow/watershed/outreach/documents/stakeholderguide.pdf

The City of Sacramento has developed radio PSAs featuring Sammy the Salmon. These are available at:

http://www.sacstormwater.org/what/sammy/sammy.htm

Examples of video PSAs are available from the City and County of Honolulu:
http://www.cleanwaterhonolulu.com/video.html

The Alameda Countywide Clean Water Program has developed pollution prevention and storm water brochures for residents and business. These brochures cover a variety of topics and are available at:
http://www.cleanwaterprogram.com/publications_libraryResources.htm

An example public awareness telephone survey is available from San Diego County at:
http://www.projectcleanwater.org/pdf/Carlsbad/public_awareness_03_car_slr.pdf

7. Program Effectiveness required changes
Permit Requirement Summary: The Proposed Order requires the Permittee to assess the effectiveness of the SWMP components in each Annual Report.

Background/Justification: This component enables the City and Regional Board staff to evaluate current practices, and determine if changes are warranted. The overall goal of such evaluations is a continual improvement in water quality protection efforts.

Monitoring and Reporting Program Requirements

"Monitoring and Reporting Program Requirements", Attachment 5, of the Proposed Order requires substantial changes in the existing monitoring and sampling program. In summary, the proposed Monitoring and Reporting Program (MRP) requires the City to sample Background and Receiving waters for storm water pollutants of concern, for water and sediment toxicity, and for benthic invertebrate assemblages. Background water is defined as surface water at the point of entry into the City, which includes waters that may have existing impairments from upstream users. Background and Receiving water data are compared to one another, and the results may drive the need for further sampling within the city boundaries if the data indicates that municipal pollutant sources are present. This sampling approach differs from the existing requirements, in which water sampling sites are concentrated primarily on three (3) short creek segments within the City, and pre-determined sampling constituents are relied upon in an effort to locate pollutant sources. No water toxicity studies are required in the existing Permit, therefore it is difficult to determine the true effect of storm water discharges on aquatic life. Additionally, the existing Permit uses a water quality Reference Station, located upstream of all defined human land uses and does not characterize surface water quality flowing directly into the City. The following table provides a summary of the existing and proposed programs. Regional Board staff have included a more detailed discussion of the Monitoring and Reporting changes in "Part VIII. Monitoring and Reporting Program" of this staff report. Decisions regarding changes in the new permit were also driven by sampling results from the past permit term. Please refer to the extensive discussion on data analysis from the past permit term, in the "IV. Previous Permit Term Sampling Results and Discharge Characteristics" section of this staff report.

Table 1			
1999 Permit		2004 Draft Permit	
No. of Sites	Site Locations	No. of Sites	Site Locations
21 Sites	6 on Gabilan Creek 6 on Natividad Creek 4 on Santa Rita Creek 4 on the Reclamation Ditch 1 Background (un-impaired, "native" water, located on Gabilan Creek, upstream of the City and agriculture lands)	4 sites required	3 receiving water sites 1 background site (directly upstream, and indicative of water quality entering the city) Additional background site data to be incorporated from the Agriculture Waiver Program
		4 additional sites if sampling data indicates need.	Urban Discharge sites
	Sampling Frequency Sample all sites, 1/year for: In-situ measurements Lab analysis Sediment toxicity		Sampling Frequency Sample Background + Receiving water sites, 2/year for: In-situ measurements Lab analysis Sediment toxicity Water toxicity
	Sample all sites, 1/year for: Biological assessment (benthic invertebrates)		Sample Background + Receiving water sites, 1 / year for: Biological assessment (benthic invertebrates)
			Urban Discharge sites: • Dry season visual monitoring. • In-situ sample 1 / year if indicated by receiving water samples • Lab sample 2 / year if indicated by receiving water samples

III. BACKGROUND INFORMATION

Hydrologic Setting

The City is situated in the northern part of the Salinas Valley in Monterey County, approximately ten miles east of the Pacific Ocean and adjacent to the Salinas River. Surface water bodies flowing through the Salinas area include Natividad Creek, Gabilan Creek, Santa Rita Creek, and Alisal Creek. Alisal Creek is renamed the Reclamation Ditch within the City. In addition, Carr Lake, a dry lakebed within the City, functions as a retention basin and buffers flows to the Reclamation Ditch. The City primarily discharges storm water to the Salinas River, and the Reclamation Ditch. The Reclamation Ditch flows west from the City, paralleling the Alisal Slough and eventually discharges to the Tembladero Slough. Salinas City storm water eventually discharges to the Pacific Ocean at the downstream end of the Elkhorn Slough and Moro Cojo Slough estuary system near Moss Landing.

The permitted area is delineated by the incorporated area of the City. Storm water discharges from urbanized areas consist mainly of surface runoff from residential, commercial, and industrial developments. In addition, there are storm water discharges from agricultural land uses including farming operations. However, the Clean Water Act specifically exempts agricultural discharges from regulation under this program. Certain areas within the permit boundary and not under the City's jurisdiction (such as areas owned/operated by State, County, and Federal agencies) are excluded from the area requested for coverage under this permit application. Other owners of municipal separate storm sewer systems within the permit boundary include Caltrans and Monterey County. These entities are subject to separate storm water permits.

Beneficial Uses

Storm water flows discharged to municipal storm drain systems in the City are tributary to those waterbodies described above. The beneficial uses of these water bodies, as stated in the Basin Plan, include municipal and domestic supply, agricultural supply, ground water recharge, water contact recreation, non-contact water recreation, wildlife habitat, cold fresh water habitat, warm fresh water habitat, spawning, reproduction, and/or early development, preservation of biological habitats of special significance, rare, threatened, or endangered species, estuarine habitat, migration of aquatic organisms, freshwater replenishment, and commercial and sport fishing. The ultimate goal of the municipal storm water permit is to protect the beneficial uses of receiving waters.

IV. PREVIOUS PERMIT TERM SAMPLING RESULTS AND DISCHARGE CHARACTERISTICS

1. Urban areas provide pollution sources. Development and urbanization increase pollutant load, volume, and discharge velocity over background levels. The common result of increased impervious surfaces in urban areas, is that urban pollutants are quickly and efficiently carried to natural water bodies, and increased runoff volumes result in increased erosion rates of receiving waters.

2. Urban pollutants of concern that may be contained in storm water include, but are not limited to: certain heavy metals; sediments; pathogens; petroleum hydrocarbons; polycyclic aromatic hydrocarbons (PAHs), trash, and pesticides; herbicides; and

nutrients that cause or contribute to the depletion of dissolved oxygen and/or toxic conditions in the receiving water. Excessive flow rates of storm water may cause or contribute to downstream erosion and/or excessive sediment discharge and deposition in stream channels. The quality and quantity of MS4 discharges may vary considerably because of the effects of hydrology, geology, land use, season, and sequence and duration of precipitation events.

3. Water quality sampling for the 1999 Salinas Permit was conducted on 20 receiving water sites within the City, and one Reference Station located on Gabilan Creek upstream of urban and agriculture land uses. Sample events occurred over four years, in May and December 2000, April and November 2001, June 2002, and January and June 2003.

4. Sample sites - The sampling program over the last permit term had 20 sites within the City. Sixteen (16) of the 20 sites were located in primarily residential land use areas (Figure 1 – Sampling Locations, 1999 Permit, attached). The City's initial Permit application identified these watersheds as being the lowest priority for sampling. The remaining four (4) of the 20 sample sites are located along the Reclamation Ditch, which collects runoff primarily from industrial and commercial areas, and was identified as high priority for sampling in the initial Permit application. Thus, due to the concentration of sampling sites in residential areas, the results from the original sampling program focused on water quality in these areas, more than the industrial and commercial areas, despite the City's assertion that residential areas were lower priority.

5. Water quality sampling over time – First-permit term water quality sampling values displayed a high degree of variability over the stream reaches for each sampling event, and over the four year sampling time. There do not appear to be definitive trends (improvement or degradation) in water quality over time. This conclusion is based on a visual, rather than a statistical analysis of the data.

6. Water quality constituents analyzed along stream reaches – Although storm water regulations, the past Permit, and Proposed Order do not require numeric discharge or receiving water limits (see discussions below), Regional Board staff have compared the past permit water sampling results with water quality values from the Reference Station (located on Gabilan Creek upstream of the City), and with benchmark water quality levels. The benchmark levels were taken from Basin Plan Water Quality Objectives, Central Coast Ambient Monitoring Program (CCAMP) attention levels, and US EPA standards. Regional Board staff examined water quality sample results for those sampled parameters[2] which have established numeric values that pertain to the creeks' beneficial uses (benchmark-referenced parameters). Staff compared the inter-city data to the reference site data in order to make a rough analysis of whether urban areas are contributing to, improving, or impairing storm water runoff quality. Staff found that the Reference Station exceeded benchmark levels at least 30% of the time for four (4) of the parameters: pH, dissolved oxygen, orthophosphate, and fecal coliform. Staff decided to compare inter-city samples to the Reference Station samples in all of the benchmark-referenced parameters except for those four (4) parameters in which the Reference Station exceeded benchmark values. Regional Board staff recognize that one Reference Station on Gabilan Creek is not a perfect background source for comparison with the entire city. Additionally, there are only seven (7) sample events for the Reference site, however this analysis provides some insight into the urban contribution to water quality. There were at least 120 sample points for each of the inter-city water quality parameters.

[2] Water quality sampled parameters which have benchmark values: pH, dissolved oxygen, turbidity, conductivity, nitrate as N, nitrate as NO3, orthophosphate, total suspended solids, total dissolved solids, total coliform, and fecal coliform.

Data comparison is summarized in Table 2.

Table 2

Comparison of Reference Site and Inter-City Site Values to Benchmark Values

Parameter:	Turbidity	Conductivity	Nitrate as N	Nitrate as NO3	Total Suspended Solids	Total Dissolved Solids	Total Coliform
Percentage of samples exceeded benchmark at Reference Site (n=7)	17%	0	0	0	0	0	14%
Percentage of samples exceeded benchmark at inter-city sites (n>=120)	72%	84%	46%	50%	11%	83%	64%

Table 2 demonstrates that water quality at the Reference Station was within the benchmark values for most of the samples[3]. By comparison, the inter-city sites exceeded the benchmark values at least 46% of the time in six (6) of the seven (7) parameters. From this data, one might hypothesize that there are significant urban sources for the analyzed parameters. Regional Board staff conducted further analysis on the water quality data, in order to evaluate this hypothesis. Each of the inter-city stream reaches has one sample site at the upstream City boundary. The furthest upstream site is actually a more accurate indicator of water quality entering the City than the Reference Station. Staff summarized the trends in water quality measurements over each of the stream reaches by comparing the upstream to the downstream sampling values. Table 3 (following page) shows the results. An "increase", means that the measured values increased over the stream reach from upstream to downstream, which indicates an urban source of the constituent. "Decrease" in values indicates water quality improved further downstream within the City.

[3] As described in item #6 of this section, pH, dissolved oxygen, orthophosphate and fecal coliform were not used in the Table 2, "Comparison of Reference Site and Inter-City Site Values to Benchmark Values" analysis, because the Reference Station samples exceeded benchmark values in at least 30% of these sampled constituents.

Table 3

Creek Water Quality Trends Over Sampled Creek Segments

Parameter:	Turbidity	Conductivity	Nitrate as N	Nitrate as NO3	Total Suspended Solids (TSS)	Total Dissolved Solids (TDS)	Total Coliform
Santa Rita Creek (28 samples)	Increase	No trend	No trend	No trend	No trend	No change	No change
Gabilan Creek (30 samples)	Decrease	Increase	Increase	Increase	Decrease	Increase	No trend
Natividad Creek (37 samples)	No trend	No trend	Decrease	Decrease	Decrease	No trend	No trend
Reclamation Ditch (28 samples)	Decrease	No trend	No trend	No trend	No trend	No trend	No change

In 11 out of 28 cases (39%) the creek-parameter summaries showed definite trends (Increase or Decrease) over the creek reaches. Only 18% of these summaries indicated there were urban contributions (Increases) of the constituent: turbidity on Santa Rita Creek; and conductivity, nitrate as N and NO3, and TDS on Gabilan Creek. Conversely, 61% of the analyses were inconclusive or showed no change over the length of the creek.

7. The data in Table 3 indicates that urban pollutant sources are not necessarily as ubiquitous as the Table 2 comparison with the Reference Site might indicate. Additionally, the densely concentrated sampling points along Santa Rita and Natividad Creeks have not resulted in an excessively detailed picture of water quality changes over the sample area, or over time (discussed above). Although the Reclamation Ditch sample points are not as concentrated (spatially), there were no trends seen in any of the parameters with the exception of turbidity which improved over the Ditch length. Gabilan Creek samples show more promise in locating urban pollutant sources.

8. Regional Board staff conclude from this analysis that, overall, the current sampling program has not been successful in identifying pollutant sources or trends over time. The exception to this conclusion may be found in the Gabilan Creek inter-city data, which indicates urban sources for conductivity, nitrate, and TDS, and Santa Rita Creek turbidity. This data analysis supports the changes proposed by the MRP of the Proposed Order, including a focus on the overall impact of urban runoff on receiving waters, followed by more intensive inter-city investigations if initial background-receiving water samples indicate an urban pollutant contribution (details of the proposed MRP are discussed below in section VIII. Monitoring and Reporting Program).

V. DISCHARGE PROHIBITIONS

The proposed order prohibits the discharge of storm water to the City's storm drain systems as follows:

a. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in §13050 of the California Water Code) in waters of the State of California are prohibited.

b. Discharges from MS4s that cause or contribute to the violation of water quality objectives or water quality standards are prohibited.
c. Discharges from MS4s containing pollutants that have not been reduced to the Maximum Extent Practicable (MEP) are prohibited.

The order also requires the City to effectively prohibit the discharge of non-storm water (any discharge not made up entirely of storm water) to its storm drain system. However, NPDES permitted discharges and certain non-storm water discharges (specifically listed in Discharge Prohibition A.2) which are not expected to be sources of pollutants are not prohibited by the proposed order. Examples of such non-storm water discharges include landscape irrigation flows, diverted stream flows, rising ground waters, air conditioning condensate, footing drains, dechlorinated or debrominated swimming pool discharges, and fire hydrant flow testing. Any such discharges, which are determined by the City or the Regional Board Executive Officer to be sources of pollutants, or cause or contribute to violations of water quality objectives, are prohibited.

VI. EFFLUENT DISCHARGE LIMITATIONS

Numerical and narrative water quality objectives exist for receiving waters in the Central Coast Region. However, due to the variability in storm water quality and quantity and the complexity of urban runoff, the impact of urban storm water runoff discharges on water quality or receiving waters has not been fully determined. Therefore, the Proposed Order does not contain numerical effluent limitations for specific constituents. The Permittee's storm water discharges may not, however, cause or contribute to an exceedance of a receiving water quality objective contained in the Basin Plan or other statewide plans or policies. The Code of Federal Regulations (40 CFR 122.26(d)(2)(iv)) requires storm water permittees to implement BMPs to reduce pollutants in storm water discharges to the maximum extent practicable. BMPs are described in the Permittee's SWMP. This Order requires ongoing assessment and annual reporting on the implementation and effectiveness of the BMPs.

VII. RECEIVING WATER LIMITATIONS

1. Discharges from MS4s that cause or contribute to the violation of water quality standards of Receiving Waters are prohibited. Discharges from the MS4 of storm water, or non-storm water for which a Permittee is responsible, shall not cause or contribute to a condition of nuisance in Receiving Waters.

2. The City shall comply with the above discharge prohibitions, effluent discharge limitations, and receiving water limitations through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP. Due to the unique aspects of managing storm water discharges through storm drain systems (intermittent discharges, difficulties in monitoring, limited physical control over the discharge, etc.), the City must evaluate the effectiveness of BMPs annually and determine whether the implemented BMPs are adequately protecting receiving waters. If exceedance(s) of water quality objectives persist notwithstanding implementation of the SWMP, the City shall assure compliance with the discharge prohibitions and receiving water limitation by complying with the following procedure:

   a. Upon a determination by either the Permittee or Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall submit a Report of Water Quality Exceedance (Report of Exceedance) to the Regional Board that describes BMPs that are currently being

implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The Report of Exceedance shall include proposed revisions to the SWMP and an implementation schedule for new or improved BMPs, if applicable. The Regional Board may require modifications to the Report of Exceedance, and has 30 days in which to approve the report.

b. The Permittee shall implement the revised SWMP and monitoring program in accordance with the approved schedule.

If the Permittee has complied with the procedures set forth above and are implementing the revised SWMP, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

VIII. MONITORING AND REPORTING PROGRAM

The significant changes in the sampling component of the Monitoring and Reporting Program (MRP) are summarized above, in Section II.A, Table 1. The City has been implementing a monitoring and reporting program as required by the existing Permit. The existing program will remain in effect until a new MRP is adopted. The Proposed Order contains a new MRP (Attachment 5 of the Proposed Order). The intent of both the existing and proposed MRPs is to identify problem areas and ultimately eliminate pollutant source(s). The proposed MRP focuses on comparing incoming water quality (directly upstream of the City), with receiving water quality (immediately downstream form the City), in order to identify the overall urban impact on water quality. The basic sample constituents and timing of the proposed program are consistent with the *Monitoring and Reporting Program for Dischargers Enrolled Under Conditional Waiver of Waste Discharge Requirements for Discharges From Irrigated Lands* (Agriculture Waiver Program). However, the City is also required to sample for urban-source pollutants in addition to the Agriculture Waiver Program sample constituents. The reason for the match between the two programs, is that agriculture is the primary land use upstream of, and discharging to the City. The Agriculture Waiver Program will require water quality sampling immediately upstream of the northeast and southern City boundaries in order to characterize potential pollutants flowing from agriculture lands, into the City. The City is encouraged to use this data in conjunction with the water quality data collected for this storm water permit MRP. The proposed MRP constituent sampling requirements were also designed to match as closely as possible, the Monterey Bay Marine Sanctuary's "Urban Watch", "First Flush", and "Snapshot Day" sampling programs, and the EPA Storm Water Phase II list of pollutants of concern. The combined sampling programs' water quality data will provide a comprehensive picture of background water quality (water quality entering the City), City water quality contributions or improvements, and an understanding of how city runoff compares with regional data.

The original monitoring program required sampling at prescribed sites for predetermined constituents. The results were mixed, in terms of usefulness, for determining pollutant sources, as described in detail under the "IV. Previous Permit Term Sampling Results and Discharge Characteristics" section of this Staff Report. The proposed MRP initially relies on sample points directly upstream and downstream of the City in order to characterize the overall impact of the commingled urban runoff sources. The proposed MRP also utilizes an iterative approach to identifying, sampling for, and eliminating pollutants. The iterative process requires the City to: First, fully implement BMPs and pollutant source control; Second, take water quality samples,

water and sediment toxicity samples, and benthic invertebrate surveys of the background and receiving waters in order to get a "big picture" view of the City's impacts on water bodies; and, third if needed, add increased levels of BMPs, source control, and add inter-city sampling (urban discharge sites) in an effort to locate and eliminate pollutant sources. The increased sampling of urban discharge sites is triggered if pollutant levels in receiving water samples exceed sample values from background sites. The MRP section B(3)(a)(iii) and B(3)(b)(iii) have additional requirements if samples exceed Basin Plan water quality objectives, CCAMP attention levels, or are outside of sampling ranges typical for the site. This iterative, source-control based MRP parallels the purpose and intent of the Federal storm water regulations, and should provide the most sensible use of resources.

The proposed order requires the City to submit an electronic and hard copy Annual Report by October 1 of each year (Draft Order section D.4). Reporting requirements are described in Attachment 5, Draft Monitoring and Reporting Program, section E.1. In summary, the Annual Report will provide an assessment of program effectiveness, a review of program implementation including compliance with the time line of due dates (Attachment 6, "Draft Due Dates Table" of the Draft Order), a summary and analysis of monitoring results and pollutant loading, a description of storm water management program modifications, a fiscal analysis for funding storm water management activities, a draft Work Plan for implementation of the storm water management program for the next year, and other items as needed to analyze the success of the program.

IX. EDITS TO THE 2004 PROPOSED ORDER AND ATTACHMENTS

Regional Board staff have made some revisions to the originally circulated Proposed Order and its Attachments. Revisions are a result of comments received by interested parties, as well as grammatical edits and clarifications. In the following segments additions are underlined, and ~~deletions are crossed out~~.

1. Proposed Regional Board hearing date has been changed in all documents from December 3, 2004, to February 11, 2005.

2. Draft Order Findings #2 should read:

   This Order is based on the federal Clean Water Act, the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board, and the Regional Water Quality Control Plan (Basin Plan) adopted by the Regional Board~~, the California Toxics Rule, and the California Toxics Rule Implementation Plan.~~

3. Draft Order "Discharge Prohibitions" #8 is corrected as follows:

   The Permittee shall examine all dry weather analytical monitoring results collected in accordance with the Monitoring and Reporting Program required by this Order (Attachment 5) to identify water quality problems that may be the result of any non-storm water discharge, including any non-prohibited discharge category(ies) listed in Discharge Prohibition No. ~~Finding No.~~5 of this Order (page 6~~1~~)...

4. In Attachment 4 "Storm Water Management Program Revision Requirements", Section II.A.iv should read:

   Erosion from slopes and channels shall be controlled by implementing an effective combination of erosion control (source control) and other BMPs as described in the San Francisco Regional Water Quality Control Board's Erosion and Sediment Control Field Manual, the California Stormwater Quality Association's Construction Stormwater BMP Handbook, or equivalent manual.

5. Attachment 5 "Draft Monitoring and Reporting Program", section B.3.a.ii.b. has been revised to read:

   Wet season storm sampling should target the **rising limb of the storm's hydrograph** ~~**peak flow of the storm.**~~. Whenever possible, monitoring events shall be conducted on the same day for all sites, starting with upstream sites first, and moving down the watershed. Because of the variable nature of storm water runoff, the Permittee is strongly encouraged to collect and analyze a time-series sample from each background and receiving water site. Ideally the time-series would include three (3) samples gathered from the same location at half hour increments. The three (3) samples may then be combined (composite sample) or analyzed separately. The Permittee may used trained volunteers to assist with sample collecting.

6. Attachment 5 "Draft Monitoring and Reporting Program", Section B.3.a.ii.e, has been revised to read:
   The Permittee shall collect flow data at the time of sampling for all monitoring stations sampled during a given year. Flow may be estimated using U.S. Environmental Protection Agency (USEPA) methods[4] at sites where flow measurement devices are not in place. The Permittee shall use flow data, combined with cross sectional area of sample site, and pollutant concentrations to calculate pollutant loads (refer to Attachment 4, Section VIII. Program Effectiveness, and Section E.1.6 of this report).

7. Attachment 5 "Draft Monitoring and Reporting Program", section B.3.a.ii.f should read:
   Urban Discharge sites shall be visually inspected four times per year ~~quarterly~~ during the dry season (typically, but not prescriptively, April 15 through October 15) ~~non-runoff events~~ in order to monitor for non-storm water discharge.

8. Attachment 5, section B.3.iii (page 5) should read:
   If pollutant levels of the receiving water samples exceed: a) water quality objectives b) CCAMP attention ~~action~~ levels; c) Background site water quality measurements; or d) if sampling results exceed sampling ranges typical for the site, then the Permittee shall follow the investigative steps equivalent to those described in the Toxicity Reduction Evaluation, Section B.3.b.iii, below. Should item c) "Background site water quality measurements", be exceeded by receiving water quality values, then the Permittee is also required to do additional sampling as described in the "Salinas Permit Sampling Requirements Flow

[4] NPDES Storm Water Sampling Guidance Document, USEPA 833-B-92-001, July 1992

Chart", included with this document.

9. See changes in Table 1, Table 2, Table 4, and "Salinas Permit Sampling Requirements Flow Chart" of Attachment 5, included herein.

10. See change in Attachment 6, included herein.

X. ENVIRONMENTAL SUMMARY

In accordance with California Water Code Section 13389, the issuance of waste discharge requirements for this discharge is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (commencing with Section 21100), Division 13, of the Public Resources Code.

The Regional Board has considered whether a complete antidegradation analysis, pursuant to 40 CFR 131.12 and State Board Resolution 68-16, is required for these storm water discharges. The Regional Board finds the pollutant loading rates to the receiving waters will be reduced with the implementation of the requirements in this order. As a result, the quality of storm water discharges and receiving waters will be improved, thereby protecting the beneficial uses of waters of the United States. This is consistent with the federal and state antidegradation requirements and a complete antidegradation analysis is not necessary.

IX. COMMENTS

The proposed order, monitoring and reporting program, Storm Water Management Plan Required Revisions, and attachments were posted to the Regional Board website and a notice was mailed on September 7, 2004 to all persons listed on the interested parties list. Comments from these parties have been addressed in this Staff Report.

X. PUBLIC HEARING

The Regional Board will hold a public hearing regarding the proposed waste discharge order. The public hearing is scheduled to be held on February 11, 2005, in Salinas, California. Exact location address and Regional Board hearing agenda will be posted to the Regional Board website, http://www.waterboards.ca.gov/centralcoast/. Further information regarding the conduct and nature of the public hearing concerning this draft order may be obtained by writing or visiting the Central Coast Regional Water Quality Control Board office, at 895 Aerovista Place, Suite 101, San Luis Obispo, CA 93401.

XI. INFORMATION AND COPYING

Persons wishing further information may write to the above address or call Donette Dunaway (805) 549-3698. Copies of the proposed order and its attachments, and other documents (other than those that the Executive Officer maintains as confidential) are available at the Regional Board office for inspection and copying by appointment.

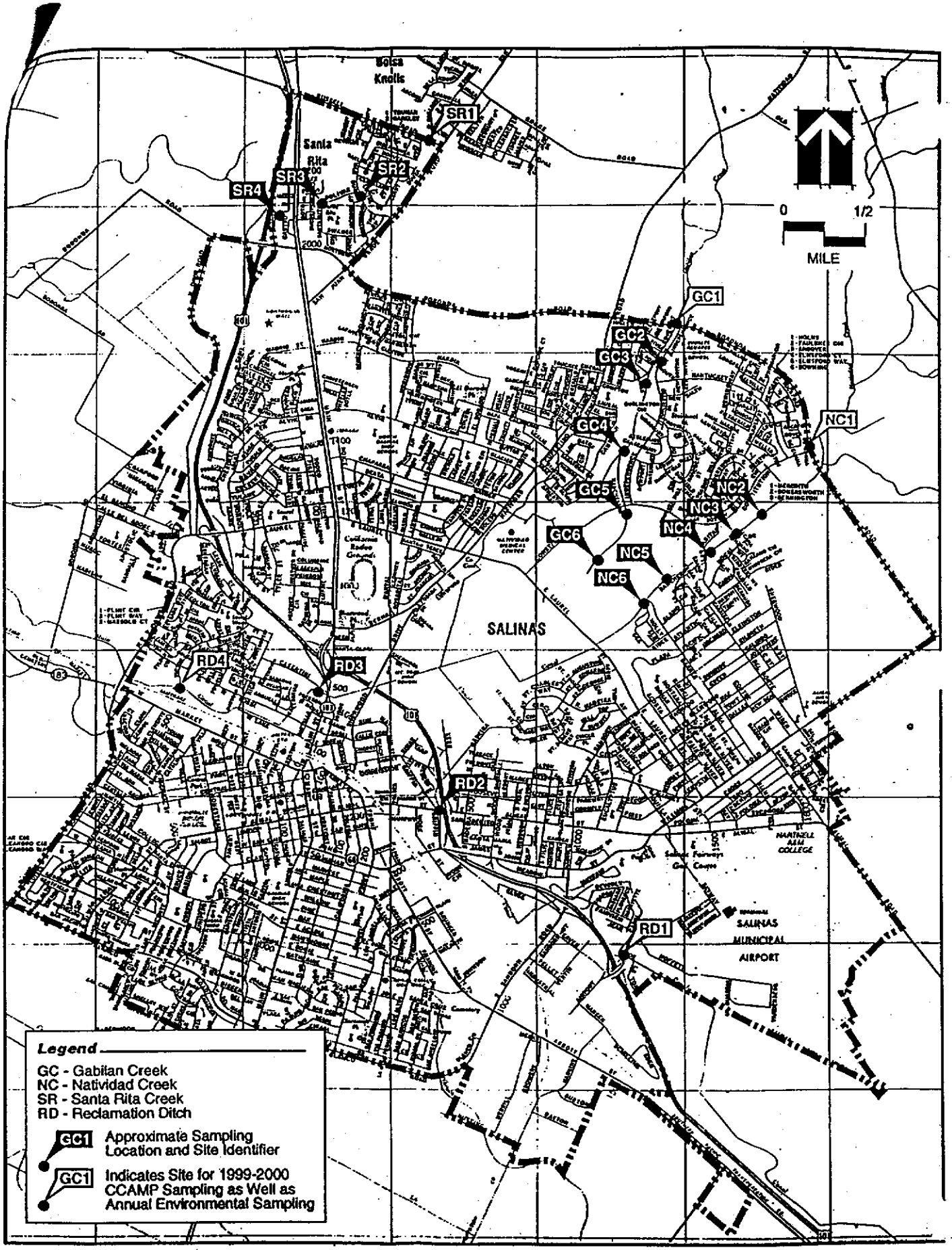
XII. ATTACHMENTS

Hard copy attachment were provided for Regional Board members. All other reviewers are directed to the Regional Board website posting, http://www.waterboards.ca.gov/centralcoast/

1. Figure 1 – Sampling Locations, 1999 Permit
2. Draft Order No. R3-2004-0135 (NPDES Permit No. CA0049981), with revisions in underline/strikeout format.
3. Attachment 4 of the Draft Order, with revisions in underline/strikeout format.
4. Attachment 5 of the Draft Order, with revisions in underline/strikeout format.
5. Monitoring Tables 1, 2, 4 with revisions in underline/strikeout format.
6. Attachment 5 "Salinas Permit Sampling Requirements Flow Chart", with revisions in underline/strikeout format.
7. Attachment 6 of the Draft Order, with revisions in underline/strikeout format.

XIII. RECOMMENDATIONS

Adopt Order No. R3-2004-0135, with attachments, as proposed.



CDM Camp Dresser & McKee Inc.

Figure 1
Sampling Locations
1999 Permit